

REMARKS:

- 1) The claims have been amended as follows. Independent claim 1 has been amended to emphasize the structure of the insulation arrangement comprising a pre-fabricated shell that includes an outer sheath and two termination profiles connected to the outer sheath at two end sections thereof, wherein the shell is adapted to receive therein an insulation material layer and to be mounted on the pipe with the longitudinal seam open. These clarifications are supported in the specification (e.g. page 6 lines 1 to 21) and do not introduce any new matter. Claims 20 and 21 have been amended to remove alleged new matter. Claim 20 has further been amended for clarification of the structure, based on the specification at page 6 lines 1 to 21. Claims 22 to 26 have been amended to depend from claim 1 rather than claim 20. Claim 27 has been canceled to avoid the alleged new matter. Entry and consideration of the claim amendments are respectfully requested.
- 2) Referring to page 2 of the Office Action, the objection to the Amendment of June 22, 2007 on grounds of new matter has been obviated by simply canceling the subject matter asserted to be new matter in claims 20 to 21. This subject matter is not needed for clearly defining the invention or distinguishing the invention over the prior art, but is a part of the overall original disclosure. The issue of new matter is moot in view of the cancellation of these features from claims 20 and 21. Also,

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claim 27 has been canceled to avoid similar issues. Please withdraw the objection based on new matter.

- 3) Referring to page 3 of the Office Action, the rejection of claims 20 to 26 under 35 USC 112(1) for failure to comply with the written description requirement has been obviated by deleting the asserted new matter from claims 20 and 21. Please withdraw the rejection.
- 4) Referring to page 6 of the Office Action, the allowance of claims 17 and 18 is appreciated. Those claims have been maintained without further amendment and thus still stand allowed.
- 5) Independent claims 1 and 20 have been amended to clarify structural features that characterize the inventive insulation arrangement and distinguish the inventive insulation arrangement from the prior art.

A key feature of the inventive insulation arrangement is that it comprises a pre-fabricated shell (9) including an outer sheath (3) and termination profiles (7) attached to the sheath (3) at the end sections (32, 33) thereof. This is a structural feature of the inventive insulation arrangement, that it must have termination profiles connected to the end sections of an outer sheath to form a pre-fabricated shell that includes all of these inter-connected components.

Another important feature is that the outer sheath (3) has an open longitudinal seam (16) that opens into the hollow interior of the sheath. This open longitudinal seam is important

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because it enables an insulation material layer to be received in the pre-fabricated shell, and allows this construction to be mounted on the pipe. Namely, the shell is adapted to receive therein an insulation material layer and to be mounted on the pipe with the longitudinal seam open and with the insulation material layer received in the shell.

Claim 1 has been amended to make clear that the recited features are structural features that define and limit the final structure of the claimed arrangement. Namely, the relevant insulation arrangement must have termination profiles connected to the end sections of an outer sheath to form a pre-fabricated shell. The shell must have a longitudinal seam, so that the shell is adapted to receive therein the insulation material layer and to be mounted on the pipe with the longitudinal seam open. In other words, the shell must actually and concretely be adapted to achieve these features, namely to receive therein the insulation material layer and to be mounted on the pipe with the longitudinal seam open.

Currently amended claim 20 also clearly recites the significant structural features. The insulation arrangement comprises a shell including two metal termination profiles connected to the opposite end sections of a titanium foil cylindrical outer sheath. The arrangement further includes a cylindrical insulation material jacket received and held by the termination profiles in a cylindrical shell space within the outer sheath. The shell with the thermal insulation material therein is adapted to be mounted on the pipe via the longitudinal seam of the outer sheath, which is open.

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These are all concrete physical structural features of the inventive insulation arrangement, and do not merely define an intermediate step in the assembly of the structure. At page 5 of the Office Action the Examiner stated "*The limitation added to claim 1 dealing with when the insulation and how the insulation is provided in an intermediate step is not limiting to the final structure of an article claim, therefore this limitation has not been dealt with, however the prior art appears to teach the same assembly method and is therefore also covered by the prior art references, for instance Lestak and Kikuchi*" (page 5 lines 13 to 17 of the Office Action of August 22, 2007). Moreover, as will be discussed further below, the prior art references do not disclose and would not have suggested "the same assembly method" as asserted by the Examiner, and especially do not disclose and would not have suggested the same structure as claimed with the same features and adaptations as claimed.

- 6) Referring to pages 3 to 5 of the Office Action, the rejection of claims 1, 2, 11 to 15 and 20 to 27 as obvious over US Patent 4,287,245 (Kikuchi) in view of US Patent Application Publication US 2006/0054235 (Cohen et al.) and US Patent 4,182,379 (Lestak et al.) is respectfully traversed.

The inventive subject matter of independent claims 1 and 20 has been discussed above. The references do not disclose and would not have suggested such a combination of structural features in an insulation arrangement as presently claimed.

Regarding Kikuchi, the Examiner says "*the insulation layers are seem to have a Z shaped termination profile as seen in*

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figures 3 and 4". In the claimed arrangement, it is not the insulation layer that has a Z-shaped termination profile, but rather the titanium foil outer sheath has termination profiles connected to the two end sections thereof. The Examiner's assertion that such an alleged Z-shaped termination profile is "seen in figures 3 and 4" of Kikuchi is overcome by applicant's remarks in section 6 on pages 16 to 19 of the earlier Response of December 22, 2006, which is incorporated herein by reference and reasserted. The Examiner apparently acknowledged that, because in the Office Action of March 22, 2007 (see page 6) the Examiner instead asserted that the features with reference numbers 7 and 8 in Fig. 5 of Kikuchi form a termination profile. However, element 7 is a reinforcing material, and element 8 is a foaming synthetic resin that is reinforced with the reinforcing material 7. The elements 7 and 8 of Kikuchi are only put in place as the last steps in mounting and sealing the insulation arrangement onto the pipe. For these reasons, the elements 7 and 8 cannot be regarded as, and do not suggest, termination profiles that are connected with the outer sheath to form a pre-fabricated shell, and do not suggest any sort of metal termination profiles of a titanium outer sheath but rather are components of the inner insulation layer. See pages 13 to 15 of applicant's Response of June 22, 2007, which is incorporated herein by reference in its entirety and reasserted. In the present Office Action of August 22, 2007, the Examiner is no longer referring to the elements 7 and 8 of Kikuchi, and Figures 3 and 4 of Kikuchi do not disclose or suggest the present termination profiles for the reasons

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already established of record (see the above discussion and the earlier Response of December 22, 2006).

As discussed above, the present invention of both claims 1 and 20 respectively involves a pre-fabricated shell that includes two termination profiles connected to opposite end sections of the outer sheath. The outer sheath has a longitudinal seam that is open so as to receive an insulation material layer in the sheath, and the pre-fabricated shell is thereby adapted to receive therein the insulation material layer and to be mounted on the pipe with the seam open and with the insulation material layer received in the shell. These are the physical characteristics of the shell itself, and do not represent steps of an assembly or installation method.

Contrary thereto, Kikuchi does not disclose any such pre-fabricated shell including termination profiles connected to opposite end sections of an outer sheath, and having an open longitudinal seam so that the shell is thereby adapted to receive an insulation material layer therein and to be mounted on the pipe with the seam open. Instead, the insulation arrangement according to Kikuchi includes semi-cylindrical insulation elements (2) of a foamed synthetic resin overlaid with an elastic sheath (3) which is further overlaid with a thin metal plate (4) (col. 4 lines 45 to 50). Then, for connecting these insulation units together, the reinforcing material (7) is packed into the recesses between facing units, and the synthetic resin (8) is introduced as a sealant (col. 8 line 62 to col. 9 line 6). There is no disclosure or suggestion of a pre-fabricated shell including a titanium outer sheath with termination profiles

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connected to the end sections thereof, and an open longitudinal seam so that the shell is adapted to receive insulation material and the pipe therein.

The Cohen et al. publication has been cited merely for disclosing titanium foil as a covering on pipe insulation. However, it is significant that Cohen et al. also disclose a construction in which insulation material is applied onto a pipe and then the insulation material is covered with a covering of protective material (see paragraphs 0011, 0012 and 0032). Just like Kikuchi, Cohen et al. do not disclose and would not have suggested a pre-fabricated shell including an outer sheath with termination profiles connected to the end sections thereof, and with an open longitudinal seam so that the shell is adapted to receive insulation material and the pipe therein. Thus, even a combined consideration of these two references would have given no suggestions and no apparent reason to proceed in the manner according to the invention.

Lestak et al. have been cited for disclosing Z-shaped circular disks as termination profiles. However, the Z-shaped screen flange (50) is only secured to the cover shell at the end of the installation process to close the ends of the shell and provide support between the pipe and the shell. Furthermore, the shell (20) is in a form of a tube without a longitudinal seam (col. 2 lines 65 to 68). Thus, there is no pre-fabricated shell including an outer sheath and termination profiles connected at the end sections of the outer sheath, whereby the outer sheath further has a longitudinal seam to be adapted to receive insulation material and the pipe therein. The construction of

the outer sheath as a tube (20) excludes the possibility of providing the termination profiles connected to the ends of the sheath to form a pre-fabricated shell, because then the shell would be entirely closed and could no longer be mounted on the pipe. Even if the teachings of Lestak et al. regarding the termination profiles are combined with those of Kikuchi and Cohen et al., the result still would only have suggested to provide a termination profile as an endcap as a final step of the installation of the insulation arrangement, which would not have resulted in a structure that comprises a pre-fabricated shell having the termination profiles originally connected to the end sections of the outer sheath that further has an open longitudinal seam.

The combination of the references proposed by the Examiner seems to be based on a retrospective or hindsight re-construction of the inventive features based on a knowledge of the subject matter of the present application, and using the present claims as a "blueprint" for selecting features from the several references. The references themselves would not have suggested such a combination of the distinct features. The motivations proposed by the Examiner do not arise from the references or from common sense based on the prior art knowledge demonstrated by the references.

The dependent claims are patentably distinguished over the prior art already due to their dependence.

Claim 26 defines a method of installing the insulation arrangement of claim 1, with a particular combination of method steps in a particular sequence. None of the references discloses

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such a combination and sequence of installation steps, and the Examiner has not particularly addressed these method steps in detail beyond stating that *"the prior art appears to teach the same assembly method and is therefore also covered by the prior art references, for instance Lestak and Kikuchi"*. That is insufficient to establish a prima facie case of obviousness. Moreover, the above discussion of the actual installation methods (and the resulting structures) disclosed by Lestak and Kikuchi demonstrates the differences between the prior art and the presently claimed method.

Claim 27 has been canceled.

For the above reasons, the Examiner is respectfully requested to withdraw the rejection of claims 1, 2, 11 to 15 and 20 to 27 as obvious over Kikuchi in view of Cohen et al. and Lestak et al.

- 7) Referring to pages 5 to 6 of the Office Action, the rejection of claims 16 and 19 as obvious over Kikuchi in view of Cohen et al. and Lestak et al., and further in view of US Patent 3,904,379 (Oser et al.) is respectfully traversed. Claims 16 and 19 depend from claim 1, which has been discussed above in comparison to the first three references. The Oser et al. reference has been discussed in applicant's prior Response of June 22, 2007, which is incorporated herein by reference and reasserted, to establish that Oser et al. does not disclose and would not have suggested the relevant features of independent claim 1. Oser et al. has been cited for disclosing a profiled or patterned configuration and stiffening ribs on an outer metal foil layer of an insulating

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structure. However, for the reasons of record, such teachings even when combined with the above three references would not have suggested the combination of features of claim 1 from which claims 16 and 19 depend. Therefore, the Examiner is respectfully requested to withdraw the obviousness rejection of claims 16 and 19.

- 8) Favorable reconsideration and allowance of the application, including all present claims 1, 2 and 11 to 26, are respectfully requested.

Respectfully submitted,
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